



## Observation or Inference?

Grades 6-8

Presented in partnership with Milwaukee Public Schools, Milwaukee, Wisconsin

**Curriculum Focus:** Science, English/language arts, reading, math, media, technology

**Time Frame:** 2 weeks

**Overview:** These activities will allow students to compare pictures and video chapters of killer whales in order to observe their patterns and behaviors. Students will determine what observations are, what inferences are, and what the media is trying to convey to them about killer whales.

### Learning Objectives:

Students will be able to

- Recognize bias and value judgments in photos, video, and media
- Understand why bias might be present
- Begin to look for bias in everyday life

### National Science Content Standards:

Students will be able to

- Use appropriate scientific processes in making personal decisions
- Increase their understanding and skills of the scientific literate person
- Identify and use abilities necessary to do scientific inquiry
- Understand science and technology in society

### ELA Standards:

Students will be able to

- Adjust use of spoken, written, and visual language (e.g., conventions, style, vocabulary) to communicate effectively with a variety of audiences and for different purposes.
- Conduct research on issues and interests by generating ideas and questions and by posing problems. They gather, evaluate, and synthesize data from a variety of sources (e.g., print and non-print texts, artifacts, people) to communicate their discoveries in ways that suit their purpose and audience.

### Focus Questions:



- Can you use your skills to separate observations from inferences?
- How do the different media try to sway your thoughts and opinions?

**Interactive Vocabulary Journal:** You always study vocabulary, but this time let's make it yours and make it fun. Create an Interactive Vocabulary Journal (IVJ), using the unit vocabulary below. You may use any of the digital assets in this unit, and you may use other resources you find in and outside of class. For example, you may take your own photographs and incorporate them into your IVJ.

- Bias
- Observation
- Inference

### Activities:

### Videos:

[Life Skills 101: Media Wise](#)  
[Understanding Advertising](#)  
[Made to Appeal](#)

**A:** An *inference* is a conclusion or an opinion that is arrived at through reasoning. An *observation* is the act of noting the details of something or someone. If you were to have a red apple on the table, observations would include its size, color, shape, how it felt in your hand, etc. Inferences would include your anticipation of the apple's sweetness, its crunchiness, and juiciness before you bite into one. What you expect from the apple are inferences because you are basing the statements on previous knowledge, rather than actually doing those actions to this apple.

Use the chart below and make inferences and observations about the two situations.

Situation	Inferences made	Observations made
A boy wearing a blue shirt and white shorts is walking to the pond with his fishing pole.		
Dark clouds are beginning to form in the sky outside the school.		

### Videos:





Example 1: Generalization From Observations  
 The Importance of Careful Observation  
 Seed Germination: Observations of Plants  
 Student Activity: Developing Questions about Mealworms  
 Inference and Drawing Conclusions

**B:** The media often tries to persuade viewers and listeners by confusing observations and inferences of various topics. Media will use words that can have more than one meaning and add images or people or places to video that do not necessarily need to be there.

Carefully view the images and video chapters below. Create a chart like the one below to capture all your observations about each image and video chapter. What are the inferences that could be made based on the pictures? What are the different messages that could be sent about the killer whale?

Video or Image	Observations	Inferences
<a href="#">Facts and Fun About Killer Whales</a>		
<a href="#">Orcas Hunting Sea Lion</a>		
<a href="#">Killer Whales Jumping</a>		
<a href="#">Killer Whale</a>		
<a href="#">Killer Whale Attacking</a>		



What are the different messages that could be sent about the Killer Whale using these images and video chapters?

What is it in the pictures and video chapters that convey these messages?

### Video:

[Facts and Fun About Killer Whales](#)  
[Orcas Hunting Sea Lion](#)

### Images:

[Killer Whales Jumping](#)  
[Killer whale](#)  
[Killer Whale Attacking](#)

### Connections:

### Videos:

[The Importance of Careful Observation](#)  
[Observation and Logic](#)

### Writing Prompts:

[You are the Pilot](#)  
[Helpful Tasks](#)  
[Enjoying the Outdoors](#)

You make observations and inferences everyday. For example, you observe your parents and determine if it is a good time to ask for permission to do something after school. Using your



sense of observation to separate fact from inference is an important skill. Making observations is also an important science process skill.

After you have viewed the video chapters above, select one of the Writing Prompts. You will write a digital expository essay. In your essay use observation and inquiry to build the explanations and examples. Be specific, explicate your examples, and enable the reader to “virtually observe” what you actually experience.

Include in your digital expository essay images that will allow your readers further see what you are explaining and describing.

### Projects:

#### Videos:

[Example 1: Generalization From Observations](#)

[The Importance of Careful Observation](#)

[Seed Germination: Observations of Plants](#)

[Student Activity: Developing Questions about Mealworms](#)

[Inference and Drawing Conclusions](#)

**A:** Write a digital narrative, very factual and based only on observations, about an animal or object of your choice. For example, you may choose a house plant or a pet. If you have the technology available, the camera in your cell phone, for example, you can take pictures of the object and put those pictures into your digital narrative. Record your story to go along with your movie.

**B:** Write a second digital narrative based only on inferences, about the same animal or object chosen in A. Include images or words in your presentation that are meant to create a *bias* in the listeners and readers. Make note of these specific images and words so that you can later discuss them with your audience. You will want to determine whether you successfully accomplished your desired effect.

### Extension:

#### Videos:

[Oil Spills](#)

[Oil Spill from the Exxon Valdez](#)

[How the Actions of Humans Threaten Our Oceans](#)

[Water Currents and Pollution](#)





Environmental Concerns

Did You Know?: Cleaning Up An Oil Spill

Water Currents and Pollution

Research Papers

Research: Cite Your Source

Look at the “spin” different media put on events. In particular dig back and read about the oil spill of the Exxon Valdez. Look at the information the conservation groups produced and what Exxon produced. What is the “spin” of each perspective? Are there current issues around today that have “spin?”

Present each perspective in a digital research report. Use any other sources that are available to you, including the following video chapters to gain information for your topic:

Review writing a research paper by viewing the video chapters. Revise and edit your digital research report before presenting it to your teacher or to your class.